

XTRA Summer School, 25th -28th May 2005, Porquerolles (France)

Ultra short XUV pulses for time-resolved and non-linear applications

Second announcement



The summer school of the XTRA European Research and Training Network is in first place dedicated to the young scientists – and seniors- in the XTRA labs. Now, it is also open to the young scientists who are not in XTRA labs.

The lectures organized in four sessions will cover the two main issues of the XTRA scientific program, which are the generation and control of ultra-short coherent XUV pulses and their applications to a large range of studies:

- **Femtosecond lasers and optics** (5 lectures). Special emphasis will be given on the rich, rapidly evolving matter of femtosecond technology, which is of paramount importance for the extension to the XUV range. Introduction to femtosecond lasers, production and control of few-cycle pulses, femtosecond pulse metrology will be presented. Review of XUV optics and instrumentation is included in the session.
- **High harmonics generation (HHG) in gases** (4 lectures). Processes and models in gas phase-high field physics, HHG and attosecond electron dynamics, macroscopic and experimental aspects of HHG.
- **Applications of ultra-short coherent XUV pulses** (7 lectures). Lectures will review the studies, in rapidly growing number, of non linear and dynamical processes which involve ultra-short coherent XUV pulses. Studies in atomic and molecular physics, cluster physics, solid state and surface physics will be considered.
- **Other coherent XUV sources** (3 lectures). Introductory tutorials on HHG on surface, the free electron laser and the X-ray laser.

In connection with the lectures, the summer school initiates a few “practical schools”. They will consider particular problems, their modeling and numerical treatment. If possible, students are invited to bring their laptop in order that they can run executable softwares. To limit the audience in each school, students will be invited to choose three of the proposed topics.

Detailed preliminary program is available on the XTRA website (<http://xtra.dei.unipd.it/meet.htm>).

The students are encouraged to present posters describing their research. Recommended format is A0 (126cmx89cm); abstracts are welcome and will be edited if received **before May 13th**.

The persons interested are kindly requested to register by contacting Mrs Patricia Toullier, patricia.toullier@ensta.fr. **Deadline for registration and accommodation payment is April 15th**.

The organizing committee: C. Valentin (LOA-Palaiseau), Ph. Balcou (LOA-Palaiseau), E. Constant (CELIA-Bordeaux) and B. Carré (SPAM-Saclay).